UNIT-I

Chapter 1 Characterization of D.S.

1) Define Distributed System & discuss its characteristics. Give examples for Distributed Systems.

2) List the challenges in distributed systems. Explain in detail any two of them.

Chapter -2 SYSTEM MODELS

3) Define Architecture Model. Mention its goal & explain the following with an example.

i) Mobile Code ii) Mobile Agent iii)Proxy Server & Cache iv) Peer-Peer network

4) Discuss the Software Layers of distributed system architectural model.

5) Describe the interaction model of distributed system.

6) Describe the failure model of distributed system.

7) . Summarize the following design requirements for Distributed Architectures ;

i) Performance Issues ii) Quality of Service

UNIT-II

Chapter 4 : IPC

1. Explain the characteristics of IPC.
2. Compare & Contrast between Synchronous & Asynchronous communication in the context of IPC.
3. Analyze the failure model of Request/Reply protocol in client-server Communication using UDP
4. Discuss issues relating to datagram communication.
5. Explain Characteristics and issues related to stream communication.
6. Define marshalling and unmarshalling. Explain CORBA CDR with an example
7. Explain Java object serialization with an example.
8. Define Marshalling. Construct a marshalled form that represents a Organization with instance variable values :{ 'KLSGIT','BELGAUM', 1979, 590008} by using CORBA-CDR & Java Serialization.
9. Explain communication between distributed objects by means of RMI.
10. Explain remote and local invocation with the neat diagrams.
11. With a neat diagram explain the role of Proxy & Skeleton in RMI
12. Explain the fundamental concepts of the distributed object model.

13. Discuss RMI invocation semantics and tabulate failure handling mechanism for each.
14. Define RPC and With neat diagram explain its implementation
15. Explain HTTP request and reply message format.

UNIT III

DFS

2. Discuss model architecture of distributed file system and its components.
3. With a neat diagram explain the components of file service architecture in brief w. r .t. following; i) Flat File Service ii) Directory Service
Iii) Client Module
4. List out file system modules.
5. Sketch the file attributes and record structure.
6. List out the transparencies in file system.
7. List the directory service operation.
8. Describe the characteristics of file system
10. Discuss the distributed file system design requirements.

SECURITY

1. Write the steps of RSA Algorithm. Illustrate with an example given P=3 & Q=11.
2. Analyze the following uses of Cryptography with suitable scenarios.
i) Secrecy and integrity ii) Authentication
3. Discuss asymmetric (public/private key pair-based) cryptography technique and how it can be used in supporting security in distributed systems.
4. What is a distributed denial-of-service attack and how does it work?
8. What is the goal of security? List the three broad classes of security threats?
9. What is cryptography? What is the use of it?
10. Write a note on digital signature?

UNIT IV

Chapter 10: Time and Global States

1. Define following terms
    - Physical clock
    - Clock skew and clock drift
    - Coordinated Universal Time
2. Explain different modes of synchronizing a physical clocks.
3. Explain Cristian's method for synchronizing clocks.
4. Explain Berkeley algorithm for internal synchronization.
5. With the neat diagram. Explain the concept of synchronization subnet in an NTP implementation.
6. Discuss different modes of NTP server synchronization.
7. Explain with the neat diagram how messages are exchanged between a pair of NTP peers.

Chapter-11 Co-ordination & Agreement

1. Explain with a neat diagram Central Server Algorithm.
2. With neat diagram explain Ring based Algorithm w.r.t. mutual exclusion
3. With neat diagram explain Ring based Election Algorithm.

UNIT-V

Cloud Computing

1. Define cloud computing and attributes for delivering computing services.
2. Discuss network centric computing and network centric content.
3. Explain different types of clouds with examples.
4. Discuss the success and failure of cloud computing.
5. With the neat diagram explain cloud computing delivery models and services.
6. Discuss ethical issues encountered in cloud computing.
7. Explain cloud vulnerabilities.
8. Discuss the challenges faced by cloud computing.